REMARKS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-20 are currently active in this case. The present amendment adds new Claims 18-20; and amends Claims 1-17 without introducing any new matter.

In the pending Office Action, Claims 13-17 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Claims 1-5, 7-9, 11-14, and 16-17 were rejected under 35 U.S.C. § 102(b) as being anticipated by *Dail et al.* (U.S. Patent No. 5,570,355, hereinafter *"Dail"*). Claims 6, 10, and 15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Dail*, in further view of *Lumelsky* (U.S. Patent Publication No. 2004/0166812).

In response to the rejection of Claims 13-17 under 35 U.S.C. § 101, the preamble of Claims 13-17 is amended to direct them to a computer-readable medium storing a computer program that is configured to execute a method on a computer system. This change finds non-limiting support in Applicants' disclosure as originally filed, for example at page 33, lines 1-3. Since these claims are now directed to an article of manufacture, they are believed to fulfill the requirements of 35 U.S.C. § 101. As set forth in M.P.E.P. § 2106.01(I), claims directed to "computer-readable medium encoded with a computer program" are statutory. Further support for this can be found in the case In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994). Accordingly, Applicants respectfully request reconsideration of the § 101 rejection.

Furthermore, Claim 1 is amended to recite

wherein communication of the information is initiated
in the transmission frame by using the asynchronous
access region and, *when a transmission capacity of the
asynchronous access region is exceeded, channel time*

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> **_of a guaranteed time slot is allocated_** for
> communicating at least a portion of the information by
> using the channel-time-allocation access region

Claim 1, emphasis added, portions omitted. These features find
non-limiting support in Applicants' disclosure as originally
filed, for example in Fig. 8, with corresponding steps S7-S9 and
S14, and starting at page 32, l. 22. Claim 2 is amended to
recite similar features with respect to the release of channel
time. Claims 9-17 are amended to correct minor formalities.
Since these changes to Claims 9-17 are merely formal in nature,
they are not believed to raise any question of new matter.

In response to the rejection of Claim 1 under 35
U.S.C. § 102(b), Applicants respectfully traverse the rejection,
and request reconsideration thereof, as next discussed.

Briefly recapitulating, Claim 1 relates to a system
for wireless communication of information using a transmission
frame having an **_asynchronous access region_** and **_a channel-time-
allocation access region_**. In the wireless communication system,
communication of the information is initiated in the
transmission frame by using the asynchronous access region.
When a transmission capacity of the asynchronous access region
is exceeded, channel time of a guaranteed time slot is allocated
for communicating at least a portion of the information by using
the channel-time-allocation access region.

To facilitate the understanding of the Applicants'
invention, the present invention as disclosed in the
Specification is next explained. Please note that the below
comments are for explanatory purposes only and are not intended
to limit the scope of any of Applicants' claims. In background
art communication systems, information may be transmitted as
synchronous data for wireless communication. However, to
perform such synchronous data transmission, time allocation

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parameters that are required for the data transmission have to be communicated with an upper layer of the communication protocol, such as the application layer. (Specification, p. 8, ll. 1-7.) For example in an IEEE 1394 wireless transmission, a predetermined procedure has to be followed before the communication can be started, and such procedure that is defined by an upper layer protocol takes time until the time allocation. for the synchronous transmission is set up. (Specification, p. 8, ll. 8-17.) This prohibits an immediate transmission of information, since the devices that are connected to the network need to be informed by the requirements of the upper layer protocol of synchronous data transfer before any data can be transmitted. (Specification, p. 9, ll. 1-13.)

Therefore, the present invention is directed to a wireless communication system, where the information is initially transmitted asynchronously. (Specification, p. 10, ll. 3-9.) It is thereby possible to avoid the time delay that is a result of setting-up synchronous communication and the requirements of the upper layer protocols. (Specification, p. 10, ll.) As further explained in Applicants' specification in a non-limiting example at p. 10, ll. 10-16, information may be transmitted initially via asynchronous communication and then, if the information is not successfully transmitted via asynchronous communication, the information may be transmitted by channel-time-allocation, being a synchronous data transmission.

Turning now to the applied references, the reference *Dail* describes a bandwidth controller 435 that is arranged either at the upstream stations 106 or downstream head-end 109 of a communication path. (*Dail*, at col. 8, ll. 47-52.) Controller 435 can allocate of bandwidth for asynchronous data transfer (ATM) and synchronous data transfer (STM) (*Dail*, at col. 16, ll. 34-57, Fig. 4, Fig. 11). Figure 14 of *Dail* shows

the situation when an asynchronous call arrives. When such ATM
call arrives, (*Dail*, Fig. 14, step 1401) the type of ATM call is
identified (Id., step 1403), and subsequently, required
bandwidths R_i to support the ATM calls are determined (Id., step
1404).

However, *Dail* fails to teach that when a transmission
capacity of the asynchronous access region is exceeded, channel
time of a guaranteed time slot is allocated for communicating at
least a portion of the information by using the channel-time-
allocation access region, as required by Applicants' Claim 1.

Dail's Fig. 20 shows that if the ATM time slots (g_1,
g_2, … , g_n) and the extra ATM slots (x_1, x_2, … , x_n) are
insufficient to support the ATM call, the call is rejected. (See
Fig. 20, step 2001, 2003, and at col. 20, ll. 55-66.) *Dail*
clearly explains that "[w]henever a new STM or ATM call set-up
requires some guaranteed bandwidth, some or all of the extra
bandwidth can be taken away from the calls that currently have
it." (*Dail*, at col. 9, ll. 16-19.) *Dail* also states that extra
ATM slots may be momentarily assigned to an ATM call to use
unassigned or idle bandwidth in the communication link (*Dail*, at
col. 9, ll. 13-16). Therefore, *Dail* merely uses repeated ATM
time slots to transmit an ATM call, and *never* assigns an STM
time slot to transmit data that arrives as an ATM call.
Accordingly, *Dail* fails to teach the communicating of at least a
portion of the information *in the channel-time-allocation access
region*, as required by Applicants' Claim 1.

The reference *Lumelsky* used by the outstanding Office
Action to form a § 103(a) rejection, fails to remedy the
deficiencies of *Dail*. Even if we assume the combination of
these references is proper, the cited passages of *Lumelsky* fails
to teach anything on the above discussed features of Claim 1.

Regarding the rejection of independent Claim 2, Claim
2 recites "wherein information communication is initiated in the

asynchronous access region and, when the transmission capacity of the asynchronous access region is not exceeded during the asynchronous access, *channel time for communication in the channel-time-allocation access region is released*" (emphasis added). As explained above, *Dail* never assigns any of the STM data transmission time slots to the incoming data in an ATM format. Therefore, *Dail* cannot release any channel time of the channel-time-allocation access region, as required by Claim 2. *Dial*'s Fig. 23 only shows the release of ATM slots, for example in step 2305 of FIG. 23, and explained at *Dial*'s col. 18, ll. 35-44, the controller performs "allocation of one ATM time slot per bandwidth allocation cycle."

Regarding Applicants' independent Claim 3, this claim recites "a frame setting step of setting the asynchronous access region and the channel-time-allocation access region in the transmission frame according to the received at least one of the channel time allocation request and the channel time release request." As shown above, the cited passages of *Dail* fail to teach a feature regarding setting an asynchronous access region and the channel-time-allocation access region, wherein a communication is performed having an asynchronous access region and a channel-time-allocation access region at a predetermined frame period, as required by Claim 3. Applicants' independent Claims 4-5 recite similar or somewhat similar features in the context of a method (Claim 4) and a means-plus-function claim (Claim 5). Accordingly Applicants respectfully request reconsideration of the rejection of independent Claims 4-5.

In response to the rejection of independent Claim 9, this claim recites, *inter alia*:

    storing transmission information intended to be
transmitted in the transmission frame;

    determining an amount of information that can be
transmitted in the asynchronous access region of the
transmission frame;
    comparing the amount of information determined in
said determining with the information stored in said
storing;
    requesting allocation of time at said control
station for the channel-time-access region of the
transmission frame if the information stored in said
storing exceeds the amount of information determined
in said comparing.

Claim 9, portions omitted, emphasis added. As explained above,
the cited passages of *Dail* are only using ATM transmission
slots, and therefore cannot requesting allocation of time at
said control station for the channel-time-access region of the
transmission frame if the information stored in said storing
exceeds the amount of information determined in said comparing,
as required by Claim 9. In addition *Dail* explicitly teaches
that "the length of the STM region, [the STM bandwidth
allocation,] B_s does not vary from frame to frame, because the
STM time slots are allocated synchronously with a periodicity of
one frame." (*Dail*, col. 20, ll. 25-29, and in corresponding
Figs. 12 and 19, reference numeral B_s.) As clearly shown in Fig.
19, the STM bandwidth allocation B_s is constant from frame to
frame, and *is not used* for ATM data type transmission, when the
call is an ATM call. Only the unassigned ATM bandwidth U is
used (*Dial*, at col. 18, ll, 35-44). Claims 13-14 recite similar
or somewhat similar features in the context of a computer-
readable medium.

    Accordingly, in light of the above discussion,
Applicants traverse the rejection of Claims 9 and 13-14, and all
associated dependent claims, and respectfully request
reconsideration of the rejections.

    New Claims 18-20 is added. New independent Claim 18
recites a wireless communication method, including features

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directed to the super-frame period including a contention access period (CAP) and a contention free period (CFP). New Claim 19 depends from Claim 18 and recites features regarding allocating a guaranteed time slot. New Claim 20 depends from Claim 19 and recites features regarding an upper-layer application. The features of Claims 18-20 are supported by Applicants' disclosure as originally filed, for example in Fig. 8, and beginning at p. 32, 1. 9, and therefore do not raise any issues on new matter.

As it is believed that all of the rejections set forth in the Official Action have been fully met, favorable reconsideration and allowance are earnestly solicited. If, however, for any reason the Examiner does not believe that such action can be taken at this time, it is respectfully requested that he/she telephone Applicants' representative at (908) 654-5000 in order to overcome any additional objections which he might have.

If there are any additional charges in connection with this requested amendment, the Examiner is authorized to charge Deposit Account No. 12-1095 therefor.

Dated: August 7, 2007   Respectfully submitted,

By _____
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